

WHAT IS CLAIMED IS:

- 1 1. A method for recovering mesenchymal stem cells,
2 comprising:
3 (a) providing a mixture comprising mesenchymal stem
4 cells;
5 (b) seeding the mixture into a culture device; and
6 (c) recovering and culturing the mesenchymal stem cells.
- 1 2. The method as claimed in claim 1, wherein said
2 culture device comprises a plate with pores, wherein the
3 pore size is sufficient for separating mesenchymal stem
4 cells from other cells.
- 1 3. The method as claimed in claim 2, wherein the pore
2 size ranges from about 0.4 to 40 microns in diameter.
- 3 4. The method as claimed in claim 1, wherein the
4 mixture comprises cells selected from the group consisting
5 of mammals, animals, and plants.
- 1 5. The method as claimed in claim 4, wherein the cells
2 are selected from the group consisting of fractioned tissues,
3 un-fractioned tissues, bloods, and body fluids.
- 1 6. The method as claimed in claim 5, wherein the mammal
2 comprises human.
- 1 7. The method as claimed in claim 5, wherein the cells
2 are selected from the group consisting of bone marrow,

- 3 embryonic yolk sac, placenta, umbilical cord, and fetal,
4 adolescent and adult body fluids and tissues.

1 8. The method as claimed in claim 1, wherein the
2 mesenchymal stem cells have the capability of self-renewal
3 and pluripotent differentiation.

1 9. The method as claimed in claim 8, wherein the
2 mesenchymal stem cells can differentiate into tissues
3 comprising bone, adipose, or cartilage.

1 10. The method as claimed in claim 8, wherein the
2 mesenchymal stem cells are characterized by CD34⁺.

1 11. The method as claimed in claim 9, wherein the
2 mesenchymal stem cells are cultured in DMEM-LG medium
3 containing 10% fetal bovine serum.

1 12. An isolated mesenchymal stem cell recovered by the
2 method as claimed in claim 1, which has the capability of
3 self-renewal and pluripotent differentiation.

1 13. The mesenchymal stem cell as claimed in claim 12,
2 which can differentiate into tissues comprising bone,
3 adipose, or cartilage.

1 14. The mesenchymal stem cell as claimed in claim 12,
2 which is characterized by CD34⁺.

1 15. A composition comprising the mesenchymal stem cell
2 as claimed in claim 12 and a culture medium, wherein the
3 medium expands the mesenchymal stem cell.

1 16. The composition as claimed in claim 15, wherein the
2 mesenchymal stem cell is characterized by CD34⁺.

1 17. The composition as claimed in claim 15, wherein the
2 medium comprises DMEM-LG medium containing 10% fetal bovine
3 serum.

1 18. A pharmaceutical composition comprising the
2 mesenchymal stem cell as claimed in claim 12 and a
3 pharmaceutically acceptable carrier, wherein the mesenchymal
4 stem cell is present in an amount sufficient to serve as
5 tissue replacement or gene therapy for tissues damaged by
6 age, trauma, and disease.

1 19. The pharmaceutical composition as claimed in claim
2 18, wherein the mesenchymal stem cell can differentiate into
3 tissues comprising bone, adipose, or cartilage.

1 20. The composition as claimed in claim 18, wherein the
2 mesenchymal stem cell is characterized by CD34⁺.